

NEW EASTERN ANTHOMYIIDAE (DIPTERA)

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In arranging the Anthomyiidae of the Cornell University Collection, for the purpose of listing the New York State species in the forthcoming "Catalogue of the Insects of New York," I found ninety species from this state, about three-fourths of which have already been recorded from the eastern United States. Of the remainder, which cannot be satisfactorily identified with known forms, eight are published herewith as new. The others, since they are represented either by poorly preserved specimens or by females only, it is inexpedient to describe.

The assignment of the species to genera is in accordance with the recent classification of Schnabl and Dziedziicki, and practically that of Stein in the "Katalog der palaearktischen Dipteren," Vol. 3. The terminology of the setae of the legs given by Stein has been adopted as being the most natural. The insect is assumed to be standing with the fore and hind femora parallel with the body, the former turned forward, the latter backward, the middle femora at right angles to the body, and the tibiae vertical. When in this position the sides of femora and tibiae turned cephalad are called anterior, those turned caudad are called posterior. The terms extensor and flexor sides are self-explanatory. Thus an outer lateral extensor seta of the fore tibia is one which is on the side of the tibia outward and forward from the body.

For the benefit of those who do not have access to the work of Schnabl and Dziedziicki, it has been thought useful to give an adaptation of their key to the subfamilies (exclusive of the Muscinae), as well as a short diagnosis of each of the genera, to which species in this paper have been referred.

Key to the Subfamilies

A. Sterno-pleural setae arranged in an equilateral triangle; d. c. 4, rarely 3 or 5; the seta on the posterior median extensor surface (calcar of Schnabl) of the hind tibia placed very low, becoming preapical in position; eyes of both male and female usually widely separated; anal vein abbreviated; wing not rilled;

abdomen often with four to eight spots; caudal margin of the fifth ventral sclerite of the male deeply notched on the median line usually to beyond the middle; the fulcrum of the hypopygium produced caudad. . . . **Coenosinae**
 AA. Sternopleurals, if three are present, arranged in the order 1:2 in a right triangle (except in *Lispocephala*, *Limnospila*, and *Dialyta*); eyes of the male usually more or less approximate, often contiguous; anal vein sometimes produced to the margin (in the *Anthomyiinae*); wings often rilled; caudal margin of the fifth ventral sclerite of the male usually with a shallow median notch, in some genera deeply two or three notched; fulcrum of the hypopygium produced cephalad (except in *Euryomma*, *Limnospila* and *Coenosites*).

B. Underside of the scutellum more or less sparsely covered with fine hairs; anal vein (with very rare exceptions) produced to the margin of the wing; squamae often small and equal, and not contiguous at the base.

Anthomyiinae

BB. Underside of the scutellum bare; anal vein does not reach the margin of the wing.

C. First anal vein short, second anal suddenly flexed upwards; sternopleurals often arranged in the order 1:1; posterior extensor surface of the hind tibiae with one or two setae **Fanninae**
 CC. Anal veins parallel or divergent.

D. Seta on the posterior median extensor surface of the hind tibiae absent (except in the exotic *Limnarcia* and *Coenosites*, in which the anterior supra-alar seta ("pra" of Stein) of both sexes and the cruciate setae on the front of the female are wanting, the former genus with 6, the latter with 7 pairs of d. c.).

E. Thorax with an uneven number of dark stripes, or unmarked; scutellum with only the larger basal and subapical setae; face and oral margin usually produced; R_{4+5} and M_{1+2} parallel or slightly convergent, more rarely divergent; no cruciate setae on the front of the female; "pra" minute or wanting; usually sparsely and short-setose species. **Limnophorinae**

EE. Thorax with an even number of dark stripes or rarely unmarked; scutellum with stout discal, prebasal and preapical setae in addition to the basals and subapicals (except in the exotic *Enoplopteryx* and *Limnarcia*): face usually vertical, rarely produced; R_{4+5} and M_{1+2} usually diverging or parallel; cruciate frontals usually absent; "pra" often present; usually strongly setose species. . . . **Mydaeinae**

DD. One (rarely more) seta on the posterior median extensor surface of the hind tibiae present; the cruciate frontal setae in the female and the anterior supra-alar bristle (pra) not simultaneously wanting, except in *Dialyta* in which "pra" is very small and may be absent, and in *Tri-chopticus* in which the eyes are hairy. **Aricinae**

COENOSINAE

The genera *Schoenomyza*, *Hoplogaster*, *Phyllogaster* and *Coenosia* are represented in New York State.

ANTHOMYIINAE (= *Hylemyiinae*-*Pegomyiinae* Schn.-Dz.)

The genera thus far found in New York are *Hammomyia*, *Hylephila*, *Hylemyia*, *Chortophila* (= *Phorbia*), *Hydrophora*, *Eustalomyia*, *Eremomyia*, *Anthomyia* and *Pegomyia*.

HAMMOMYIA Rondani

In this genus the head is strongly inflated or buccate, the front projecting out from between the eyes, with broad genae and buccae; the arista plumose or long pubescent; the frontal stripe is narrow in both sexes and cruciate setae on the front of the female are present. If *Hylephila* is to be maintained then both *H. maculata* and *unilineata*, assigned to *Hammomyia* in Aldrich's Catalogue, should be transferred to the former genus.

***Hammomyia setigera* n. sp.**

Male. Length 6 mm. Head black, silvery gray pruinose with black reflections; in profile the genae are about half, the buccae nearly as broad as the width of one eye; setae of the vertex, front, lateral oral margin and the lower margin of the buccae rather dense; frontal setae about ten in number, closely set, the lowermost about on line with base of the antennae. Face concave in profile; oral margin rather prominent; antennae black, third joint twice as long as the second, not reaching the oral margin; arista thickened at the base, short plumose. Front and frontal stripe dull black, at the narrowest point but little broader than the diameter of the anterior ocellus; orbits gray pruinose, at narrowest point about half as wide as the frontal stripe; proboscis and palpi picéous. Thorax black, bluish gray pruinose, with three narrow vittae, the laterals on line with the dorso-central setae. Dorso-centrals 2+3; sternopleurals 1+2 mingled with a number of long fine hairs; "pra" nearly as long as the seta which follows it. Scutellum with a pair of strong basals, strong subapicals, small apicals, a pair of slender discals, beside some finer discal hairs; the pubescence of the lower surface restricted to a few fine pale hairs. Abdomen gray pruinose, viewed from the side showing indistinct darker triangular reflecting spots, which when viewed from behind are usually bisected by a gray longitudinal line. The abdomen is narrow, elongate, each segment with numerous slender setae both dorsally and ventrally; setae of the sternites short, dorsal marginal setae somewhat stronger than the discal setae; fifth sternite and the hypopygium as figured (figs. 1, 2). Legs black; middle femur with three or four strong setae on the underside and an oblique row of three or more near the apex on the hinder side. Fore tibia with two or three small setae on the front (extensor) side beyond the middle, and one large outer lateral at the middle; middle tibia with two setae on the front side beyond the middle, two or three on the posterior extensor and two on the posterior flexor side; hind tibia with three on the outer flexor, three to five on the outer extensor and three to five on the inner extensor side. Tarsal claws strongly setulose, not

much curved except at the tip, shorter than the rather elongate whitish pulvilli. Wings grayish hyaline, more yellowish at the base; veins yellow, darker apically; costal spine distinct; veins R_{4+5} and M_{1+2} parallel or slightly converging; R_1 ends opposite the r-m crossvein; m-cu crossvein sinuous, perpendicular to Cu_1 but oblique to M_{1+2} ; penultimate to ultimate section of M_{1+2} as 11 to 17; m-cu crossvein 1.5 times as long as the last section of Cu_1 . Squamae yellowish white, upper one covers the lower; halteres yellowish. McLean, Tompkins County, New York. May.

Type and paratypes in Cornell University Collection. Two paratypes in the collection of the American Entomological Society of Philadelphia.

HYLEPHILA Rondani

This genus differs from *Hammomyia* in having the arista nearly or quite bare. In the "Katalog der palaearktischen Dipteren" the genus is merged with *Hammomyia*. Two species are found among the New York State material, one is *Hylephila maculata* Stein, the other, unfortunately represented by female specimens only, is but 4 mm. in length and differs from other species in chaetotaxy.

HYLEMYIA R. D.

Schnabl and Dziedzicki place the species of the genus *Hylemyia* (*sensu auct. nec. Schn. et Dz.*) that have no cruciate setae on the front in the female, in the genus *Pegomyia* (subgenera *Pegoplata* and *Pegomyza*). On the other hand certain species, such as *radicum*, *cilicrura* (= *fusciceps*), *ceparum*, *brassicae*, et al., which heretofore have been placed in *Anthomyia* or *Phorbia*, have been transferred to *Hylemyia*.

Hylemyia tenax n. sp.

Male. Length 7 mm. Orbits contiguous for a distance nearly equal to the length of the frontal triangle, the latter black, margined with five or six pairs of orbital setae; front and genae projecting but slightly in profile, oral margin not prominent; buccae slightly wider in profile than the length of second antennal segment, the latter reddish, less than half as long as the elongate, blackish, third segment; arista long plumose; palpi yellow; proboscis black; genae, buccae, and occiput light grayish pruinose; frontal lunule reddish. Thorax black, thick yellowish-gray pruinose, with scarcely a trace of longitudinal lines; inner dorso-centrals strong; outer dorso-centrals 2+3; "pra" distinct but less than a third as long as the following seta; sterno-pleurals 2+2, the lower anterior long, but slender. Abdomen somewhat depressed, elongate oval, narrower than the thorax; the basal segments more or less translucent yellowish except at the immediate base, the other segments more grayish,

yellowish-gray pruinose, anterior margins of the segments and a trace of a median line, darker gray; six or eight pairs of depressed marginal setae on each segment. Hypopygium (figs. 3, 4) inconspicuous, reddish yellow; fifth ventral sclerite of the same color. Legs reddish yellow, tarsi black, pulvilli and claws long; fore tibia with one outer lateral and one anterior extensor seta, both on the same level distad of the middle; middle tibia with one seta on the anterior extensor, two or three on the posterior flexor, and one or two on the posterior median surface; hind tibia with two long bristles on the median extensor surface, three or four on the outer extensor, three small ones on the outer flexor, and three or four small ones on the inner flexor surface. Fore and hind femora each with a sparsely placed longitudinal row of long setae on the flexor surface and a row of shorter ones, of increasing length distally, on the outer extensor surface. Wing yellowish, more grayish toward the apex; costal spine shorter than the r-m crossvein; R_1 ends slightly distad of this crossvein; the m-cu crossvein distinctly flexed; R_{4+5} and M_{1+2} slightly divergent. Squamae not large, the lower scale covered by the upper; yellow in color, as are also the halteres. Ithaca, New York, August. Four specimens.

This species closely resembles *H. alcaethoe* but differs in the chaetotaxy of the legs, in the structure of the hypopygium, and in having the abdominal markings less distinct.

Type and paratypes in Cornell University Collection. One paratype in the collection of the American Entomological Society of Philadelphia.

Hylemyia (Crinura) trichodactyla Rondani (= *Chortophila trichodactyla*, = *Phorbia platura* Meigen in part)

The collection contains specimens of this species from various localities in New York, as well as from Sandford, Ontario and Truro, Nova Scotia. This species has doubtless frequently been confused in American collections with *Phorbia fusciceps* (= *P. cilicrura* Rondani) and is probably the *P. platura* Meigen referred to in Aldrich's Catalogue. *P. platura* of Rondani¹ is a different species. *H. trichodactyla* resembles *fusciceps* in having the flexor surface of the hind tibia ciliated, but differs in having long bristly hairs on the extensor surface of the first segment of the middle tarsus.

FANNINAE

This subfamily is represented in the State of New York by the genera *Fannia* and *Azelia*.

¹ Prodrôme VI, 228.

FANNIA R. D.

The more or less approximate eyes of the male and the relatively short second abdominal segment are characteristics of this genus.

***Fannia parallela* n. sp.**

Male. Length 4.5 to 5 mm. Head in profile hemispherical, genae and buccae scarcely visible from the side; frontal triangle small; orbits silvery, separated by a narrow, black, frontal line about as wide as one of the orbits; eyes bare; antennae two-thirds as long as the face, fuscous, the third segment grayish pruinose, arista with a pubescence just visible under twenty diameters; palpi black. Thorax black, shining, only faintly pruinose when viewed from the side; inner d. c. (acrostichals) in two rows, small, except the posterior pair; "pra" long. Abdomen narrow, more distinctly tapering than in *F. canicularis*, shining black, the three basal segments somewhat translucent yellow at the sides, as in the species just mentioned but less conspicuously. Hypopygium as figured (figs. 5, 6). Legs black, the knees more or less yellowish; fore tibia with a short seta on the extensor surface at the apical fifth; basal two-thirds of middle femur on flexor side with three rows of setae, of which the setae of the anterior and the median rows gradually increase in length, suddenly interrupted for a short space, then both rows continued in six or seven closely set setae; middle tibia but slightly thickened on the apical third, ciliate on inner side, the hairs gradually increasing in length at the apex where they are about as long as the diameter of the segment; on the apical fourth anteriorly are three or four setae and posteriorly there is another one; hair on the inner side of the hind femur even less conspicuous than in *F. canicularis*; the setae on the outer flexor surface with about ten in the row, those on the outer extensor surface more numerous and more irregularly placed; hind tibia usually with two setae on the outer extensor side at three-fifths and four-fifths of the tibial length from the base respectively, and one longer one on the median extensor side at the apical third. Wing with a strong smoky tinge, more yellowish at the base; costal spine scarcely differentiated; R_{4+5} and M_{1+2} parallel or slightly converging; the penultimate section of M_{1+2} about half as long as the ultimate; the last segment of Cu_1 a little over half as long as the m-cu crossvein. Squamae yellowish with a smoky tinge, the upper covering the lower. Halteres yellowish. Ithaca, New York, August 30. Four males.

This species goes to *F. difficilis* in the key given by Stein.²

It differs chiefly in the arrangement of the setae of the middle femur and in lacking the dense hair on the inner surface of the hind pair. From *F. canicularis* it may readily be distinguished by the narrower front and darker thorax and abdomen.

² Die Anthomyidengruppe Homalomyia, 1895.

Type and paratypes in the Cornell University Collection. One paratype in the collection of the American Entomological Society of Philadelphia.

LIMNOPHORINAE

Lispa, *Hebecnema* and *Limnophora* are genera of this subfamily represented in the fauna of New York State.

LIMNOPHORA R. D.

The more or less narrowed front of the male, the paired abdominal spots, and weak setae of the body characterize this genus.

***Limnophora torreyae* n. sp.**

Male. Length 4 to 4.5 mm. Head black, orbits brownish-black, contiguous; frontal triangle and antennae dull black, antennae black, about two-thirds the length of the face, arista pubescent, black; palpi black; face black with grayish reflections, concave; oral margin somewhat produced, genae blackish, barely visible in profile; buccae grayish pruinose, in profile nearly as wide as the length of the third antennal joint. Mesonotum subopaque brownish-black with indications of a divided median, black line; scutellum subopaque brownish-black; pleura and metanotum grayish pruinose; inner dorso-centrals in two rows, setulae-like except a larger pair in front of the scutellum; dorso-centrals 2+3; sterno-pleurals 1+1; "pra" and the second post-sterno-pleural not differentiated from the setulae; scutellum with the usual two pairs of macrochaetae. Abdomen ovoid, yellowish-gray pruinose, if but four segments are counted, the first wholly black except for the immediate base and the median stripe; the second and third with large black triangles, the posterior corners of which are more or less produced along the posterior margins of the segments; fourth with a median triangle, sometimes divided, extending the full length of the segment; abdominal setae slender, sparse and depressed. Hypopygium as figured (figs. 10, 11). Coxae gray; legs black, claws and pulvilli small. Fore tibia with a fine seta on the outer lateral extensor side near the middle and another, sometimes wanting, a little more distad on the outer lateral flexor side; the middle tibia with two on the posterior extensor side; hind tibia with two on both outer lateral extensor and flexor surfaces, sometimes one or the other wanting. Wings grayish hyaline; costal spine very small; R_1 ends about opposite the r-m crossvein; m-cu crossvein slightly flexed, nearly perpendicular to M_{1+2} , the penultimate section of M_{1+2} half as long as the ultimate section; m-cu crossvein about one-fourth longer than the last section of Cu_1 . Squamae yellowish-white, margin more yellow, lower scale projecting one-half its width beyond the upper. Halteres yellow.

Female. Front a little broader than one eye, dark brown; frontal triangle a velvety seal brown, deeply notched almost to the base of the antennae; ocellar spot of the same texture as the frontal stripe; face, genae and buccae whitish-gray pollinose; genae in profile as wide as the width, buccae nearly as

wide as the length, of the third antennal joint. Mesonotum and scutellum subshining seal brown, with scarcely a trace of stripes; pleura, metanotum and a basal triangle on the scutellum grayish-white pollinose with a brassy tinge. Abdomen grayish-white pollinose with a brassy tinge, with three pairs of large seal brown triangles and an elongate median spot on the fourth segment. Setae of the legs as in the male, except that the seta on the flexor surface of the fore tibia and one of the setae of the extensor surface of the hind tibia may be wanting. Ithaca, New York, June.

Type (male) and paratypes in the Cornell University Collection. Paratypes (two males and one female) in the collection of the American Entomological Society of Philadelphia.

MYDAEINAE

The subgenera *Mydaea*, *Spilogaster*, and *Spilaria* of the genus *Mydaea* are represented in the New York fauna.

***Mydaea (Spilaria) pectinata* n. sp.**

Male. Length 9 mm. Head black with grayish bloom, eyes separated on the front by the rather narrow silvery-gray orbits and a still narrower black frontal stripe which expands over the front at the base of the antennae; front buccate; genae black, silvery pruinose, at the base of the antennae in profile nearly twice as wide as the width of the third antennal joint; buccae in profile nearly as wide as the length of the third antennal joint; antennae black, elongate but not attaining the oral margin; third joint three times the second in length; arista long plumose; second joint with two or three strong, and several smaller setae; eyes quite hairy; palpi black. Thorax black, grayish pruinose; mesonotum with four black stripes, the two median narrower; two inner dorso-centrals in front of the scutellum; dorso-centrals 2+4; "pra" fine, about a third as long as the seta which follows it; sterno-pleurals 1+2, below the posterior pair sometimes with one additional, but more slender, bristle. Abdomen ovate, black, with a coarse or flaky yellowish-gray bloom; second and third segments (if but four are counted) each with a pair of large, rather narrowly divided, rounded, brownish-black spots; long fine discal setae on the third and fourth segments, the marginal setae of each segment rather depressed; hypopygium inconspicuous (figs. 12, 13). Legs yellow, the fore femur except the tip, the basal two-thirds of the middle femur, the immediate base and a spot on the extensor side at the tip of each hind femur, and all the tarsi, black. Fore femur with a close row of long fine setae on the outer flexor side and another on the extensor side, the latter scarcely differentiated from the long setulae which cover this member; middle femur covered with long setulae, especially long near the base on the anterior side, with a row of long slender setae extending for two-thirds the length from the base on the posterior flexor side, a tuft of six to eight long stout setae or spines at the base, and a few stout ones apically on the posterior extensor side; hind femur with a

row of long fine setae of decreasing length on the basal three-fourths on the outer lateral extensor surface, a row of increasing length on apical half on the outer lateral flexor side; fore tibia with two setae on outer lateral side, middle tibia with a row of long setae not of uniform length on the posterior extensor side; posterior tibia with two strong setae on outer lateral extensor side at the middle and distad; and two rows of long, closely spaced, slender setae on the flexor side, one of which is outer lateral and the other is inner lateral in position. Claws and pulvilli long. Wings rilled, hyaline with a smoky tinge, veins yellowish-brown, crossveins conspicuously clouded; costal spine distinct but not large; R_1 ends slightly distad of the r-m crossvein; R_{4+5} and M_{1+2} distinctly divergent; penultimate section of M_{1+2} is half as long as the ultimate section; m-cu crossvein slightly flexed, about a tenth longer than the last section of Cu_1 ; squamae yellow tinged, lower one projects over one-third its width beyond the upper; halteres yellow. Ithaca, New York, June. Millville, Nova Scotia.

This species goes into the couplet 35 on page 429 in Schnabl's key to *Aricia* sens lat.,³ but is readily distinguished from the two species of that couplet.

The type (from New York) is in the Cornell University Collection. The paratype (from Nova Scotia) is in the collection of the American Entomological Society of Philadelphia.

ARICINAE

Dialyta, *Hydrotaea*, *Orphyra*, *Pogonomyia*, *Allocostylus* and *Phaonia* are genera of this subfamily represented in New York.

DIALYTA Meigen

The species of this genus are very few in number and all seem to be exceedingly rare. Following Schnabl and Dzierdzicki the genus may be characterized as follows: Habitus Tachinid-like; front broad in both sexes, in the female a little more than a third of the head in width, in the male either equally broad or somewhat more narrowed. Face receding, sometimes greatly; buccae moderately narrow to broad; antennae elongate, either hanging free or in contact with the face; arista pubescent or short plumose; palpi somewhat broadened toward the apex; cruciate frontal setae absent; outer verticals and post verticals well developed; orbitals of the female in a single row on each side; eyes bare, or sparsely and short pubescent below. Sternopleurals three, the posterior pair wide apart, the three thus nearly forming an equilateral triangle, almost as in the Coenosinae.

³Horae Soc. Ent. Ross., vol. xx.

The anterior supra-alar ("pra" of Stein) very minute, differing in this respect from *Phaonia*. Abdomen with four segments subequal in length, the male with a deeply notched fifth sternite as with the Coenosinae and the Hylemyiinae. Hind tibiae each with but one seta on the median posterior extensor side (calcar of Schnabl) beside the preapicals, but with three to six stout, short setae on the outer flexor side at the middle third. Wings not rilled, costal spine present; last section of Cu_1 as long or longer than the m-cu crossvein; squamae unequal.

The color, the position of the lower sterno-pleural seta, the position and number of the scutellar setae, the presence of two anterior dorso-centrals, the shape of the abdomen, the absence of the frontal cruciate setae in the female, and the elevated position of the median posterior seta on the extensor surface of the hind tibia offer a combination of characters which will distinguish the members of this genus from the forms with which they are most likely to be confused.

Because of the rarity of the species of this genus and the presence of well marked characters, I venture here to erect a species upon a single female specimen, a procedure not recommended in general for members of this family.

***Dialyta flavitibia* n. sp.**

Female. Length 7 mm. Black, shining; the trochanters, knees, tibiae, and halteres reddish-yellow, wings and squamae strongly yellow tinged.

Head in profile, oval, viewed in front broader than high; front wider than one eye, with parallel sides gradually widening a little on the lower third, in profile produced at the base of the antennae about a third the width of the eye; genae but slightly produced; buccae broader than the width of the third antennal joint; face black, with a silvery sheen, somewhat receding, oral margin not prominent; orbits subshining black, about one-fourth the width of the dull black frontal stripe; ocellar triangle and the occiput subshining black. Orbital setae in one row descend to the base of the antennae; cruciate setae wanting; antennae nearly as long as the face; arista black, short plumose to the tip, the longer hairs over twice as long as the diameter of the arista at the base; palpi black, almost linear; proboscis normal, black, labellae reddish; eyes very sparsely pubescent below. Thorax black, shining, when viewed obliquely very thinly whitish pruinose; inner dorso-centrals and "pra" not differentiated from the setulae which are found among the macrochaetae; dorso-centrals 2+3; sterno-pleurals 1+2, the posterior pair rather more widely separated than is usual with the Phaoninae; four strong and four weaker scutellar setae besides several setulae; the subapical setae shorter than the basal pair. Abdomen shining black, longer than the thorax, tapering,

the four segments subequal in length; first segment with a small lateral marginal seta, the second, third and fourth segments each with four pairs of strong marginals, the third and fourth each also with four pairs of strong discals arranged in a transverse row. The ventral sclerite of the first segment only is visible, the remaining segments have the margins of the dorsal sclerites in contact along the venter. Legs black, the trochanters, all tibiae, the tips of all femora, reddish-yellow; the setae of the femora rather long and slender, but few in number, arranged in longitudinal rows; fore femur with four or five in the upper row, about ten in the row on the outer lateral extensor surface and seven in the lower row on the outer lateral flexor surface; hind femur with about twelve in the upper outer lateral, and six in the lower outer lateral row; fore tibiae each with two anterior (extensor) and one outer lateral seta; middle tibia with one anterior (extensor) and one or two posterior extensor setae; hind tibia with three stronger setae on the apical half and three weaker setae on basal half of outer lateral flexor surface, two stout setae on outer lateral extensor surface and one (characteristic of the Phaoninae) on the median line of the extensor surface, at two-thirds of the distance from base of the tibia. Besides these, all tibia provided with a number of apical setae. Claws rather short, pulvilli as long as the claws. Wings hyaline, yellow tinged, base and veins strongly yellowish tinged, the m-cu crossvein faintly clouded with brownish; two costal spines of moderate length; R_1 ends before the r-m crossvein; the m-cu crossvein straight, makes a right angle with M_{1+2} and enters Cu_1 at a point approximately its own length from the wing margin; no setae at the base of the radial veins. Squamae pale yellowish, unequal, moderate, lower projects half its width beyond the upper; halteres reddish yellow. Adirondack Mts., New York, July.

Type in the Cornell University Collection.

PHAONIA R. D.

Phaonia (Aricia) nigricans n. sp.

Male. Length 10 mm. Head black, with pruinose reflections, angular, width in profile at base of antennae and at the vibrissae about equal; the grayish orbits contiguous on the front; genae in profile wider than the width, buccae nearly as wide as the length of the third antennal joint; antennae black, shorter than the face, second joint with three strong setae; arista long plumose on basal half; face slightly concave, oral margin prominent; eyes moderately hairy; palpi black. Thorax black, thinly gray-pruinose, mesonotum when viewed from above with four black vittae separated by three equally broad grayish dividing stripes; scutellum black, tinged with yellowish-brown toward the tip; anterior spiracle pale yellow; two pairs of inner dorso-centrals in front of the scutellum; dorso-centrals 2+4, a stout bristle placed in front and slightly laterad of the first anterior dorso-central; "pra" nearly as long as the first supra-alar; sterno-pleurals 1+2; scutellum with its full complement of setae. Abdomen short ovate, black, tessellate with silvery-gray reflecting spots; three or four irregularly spaced discals on the second, five or six on the

third, and a larger number on the fourth segment; the marginals of the first and second somewhat depressed and not conspicuous, those of the third and fourth as large as the discals; conjunctiva of the venter visible. Hypopygium not prominent (figs. 14, 15). Legs black, knees tipped with red; fore femur with long hairs and three rows of slender setae on the outer lateral surface, two of which are on the extensor and one on the flexor surface; middle femur with a row of six or seven stout, spine-like setae on the lower (flexor) side on basal half; hind femur with a row of eight or ten spine-like setae on the lower (flexor) side and a closer row of long setae on the dorsal (extensor) surface; fore tibia without, middle tibia with three setae on the posterior surface, hind tibia with three on the outer lateral flexor surface, two on the outer lateral extensor surface and one (the calcar) placed nearly a fourth the length of the tibia above the preapical setae on the median extensor surface; tarsal claws and pulvilli large. Wings rilled, smoky hyaline, smoky tinge deeper along the course of the veins, crossveins conspicuously clouded, veins black; costal spine small; R_1 extends distinctly beyond the r-m crossvein; m-cu crossvein oblique and strongly flexed; penultimate section of M_{1+2} slightly over half as long as the ultimate; m-cu crossvein about a fourth longer than the last section of Cu_1 . Squamae whitish with a smoky tinge, large, lower one projects nearly half its width beyond the upper. Halteres pale yellow. One male specimen.

Type in Cornell University Collection.

Female. Front a little wider than one eye; fronto-orbitals in a single row on each side, with lateral setulae; frontal cruciate setae wanting; scutellum sometimes without a tinge of yellow at the tip; no discals on the second, but two or three on the third abdominal segment. Hairs on the fore femora shorter than in the male, setae of the legs otherwise as in the male. Claws and pulvilli somewhat smaller than in the male. Penultimate section of M_{1+2} from three-fifths to three-fourths as long as the ultimate.

Ithaca, New York, May.

Paratypes in the Cornell University Collection, and one in the collection of the American Entomological Society of Philadelphia.

This species will go into couplet 17, page 425 in Schnabl's key.⁴

***Phaonia (Euphemia) apicata* n. sp.**

Male. Length 6 to 6.5 mm. Head black, grayish pruinose, angular, width in profile at base of the antennae equal to width at the vibrissae; eyes moderately pubescent, large, so that front and genae in profile show but little; buccae in profile broader than half the length of the third antennal joint; face slightly concave, oral margin not prominent; palpi blackish, sometimes yellow at the base; antennae black, almost reaching the oral margin, second joint and the base of the third, yellow; arista long plumose; frontal triangle narrow over the antennae, black, orbits contiguous below the ocelli for a short

⁴Horae Soc. Ent. Ross., vol. xx.

distance. Thorax black, thinly gray pruinose, the four narrow black longitudinal stripes more or less distinctly visible; scutellum gray at the base, translucent, yellow apically; one pair of inner dorso-centrals in front of the transverse suture present, though but small in some specimens and absent in one, dorso-centrals 2+3; "pra" about as long as the first dorso-central; sterno-pleurals 1+2; basal and subapical setae of the scutellum long, prebasals and discals shorter. Abdomen ovate, as long as the thorax and scutellum combined, black, gray pruinose, a median black stripe visible when viewed from behind; third and fourth segments with a few slender discals and more numerous slender marginals; hypopygium inconspicuous (figs. 16, 17). Legs yellow; tarsi black; femoral setae sparse and slender, rows on the flexor side no stronger than those on the extensor side; fore tibia without, middle tibia with two posteriorly, one in the middle and one between the middle and the apex; hind tibia with one (calcar) on the median extensor surface about a fifth of the tibial length from the preapical; two on outer lateral extensor and three on outer lateral flexor surface; claws and pulvilli moderate. Wings yellowish hyaline, yellow tinged at the base, feebly rilled, veins yellow; costal spine small; R_1 ends opposite the r-m crossvein; R_{4+5} and M_{1+2} diverge; penultimate section of M_{1+2} about half as long as the ultimate section; m-cu crossvein is somewhat flexed and oblique and is 1.5 times as long as the last section of Cu_1 . Squamae strongly tinged with yellow, large; the lower projects half its width beyond the upper. Halteres yellow.

Female. Front nearly a fourth wider than one eye; frontals in a single row on each side sparsely placed; no cruciate setae on the front; in immature specimens third antennal joint, palpi, and humeri yellowish; anterior inner d. c. wanting; abdomen shorter and broader than in the male, less pruinose with median line less conspicuous or entirely wanting; costal spine large and the claws and pulvilli smaller than in the male. Hind tibia sometimes with but two setae on the outer lateral flexor surface. Ithaca, New York, May to September. Truro, Nova Scotia, August.

This species has been assigned to the subgenus *Euphemia*, even though the anterior inner dorso-centrals are rather small in some individuals, absent in the females and in one of the males. It bears much resemblance to *P. apicalis* Stein.⁵

Type (male) and paratypes in the Cornell University Collection. Two paratypes (one of each sex) in the collection of the American Entomological Society of Philadelphia.

⁵Archiv für Naturg., vol. 79, page 46.

EXPLANATION OF FIGURES

PLATE XX

Magnification $\times 30$. The figures marked "ventral" show the hypopygium in ventral aspect when but slightly relaxed, the superior forceps thus turned under with its dorsal side directed ventrad. In fig. 7 both forceps are shown more relaxed and in ventral aspect. s=superior forceps. i=inferior forceps. f=fulcrum. v=fifth sternite.

- Fig. 1.—*Hammomyia setigera*. Side.
- Fig. 2.—*Hammomyia setigera*. Ventral.
- Fig. 3.—*Hylemyia tenax*. Side.
- Fig. 4.—*Hylemyia tenax*. Ventral.
- Fig. 5.—*Fannia parallela*. Ventral.
- Fig. 6.—*Fannia parallela*. Side.
- Fig. 7.—*Limnophora discreta* Stein. Ventral.
- Fig. 8.—*Limnophora discreta* Stein. Superior forceps (a=anterior end).
- Fig. 9.—*Limnophora discreta* Stein. Side.
- Fig. 10.—*Limnophora torreyae*. Side.
- Fig. 11.—*Limnophora torreyae*. Ventral.
- Fig. 12.—*Mydaea (Spilaria) pectinata*. Ventral.
- Fig. 13.—*Mydaea (Spilaria) pectinata*. Side.
- Fig. 14.—*Phaonia (Aricia) nigricans*. Side.
- Fig. 15.—*Phaonia (Aricia) nigricans*. Ventral.
- Fig. 16.—*Phaonia (Euphemia) apicata*. Side.
- Fig. 17.—*Phaonia (Euphemia) apicata*. Ventral.